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Australian Energy Market Commission
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Review of the role of demand side participation in the National Electricity Market

This submission has been prepared by the Consumer Utilities Advocacy Centre Ltd (CUAC), an independent consumer advocacy organisation, established to ensure the interests of Victorian consumers, especially low-income, disadvantaged, rural, regional and Indigenous consumers are effectively represented in the policy and regulatory debate on electricity, gas and water.

The submission is in response to the *Draft Report: Review of the role of demand side participation in the National Electricity Market* (the Draft Report) prepared by NERA Consulting, March 2008.

CUAC welcomes the acknowledgement that consumers are not perfectly able to assimilate price information and make decisions around energy consumption in the interest of the market. While the Draft Report's recommendations appear relatively benign for consumers, much of its framing reveals underlying beliefs relating to how consumers are expected to operate in energy markets and we find these beliefs problematic.

For this reason, we have divided our submission according to 'framing issues' and 'recommendations' presented in the NERA paper.

Framing Issues

The report explores at length the role of energy prices in eliciting customer behavior and while it is not explicitly said, it is implicit in the framing of the report that price is essential to elicit 'efficient' use of electricity – a statement we would see as too simplistic, and that ignores demand elasticity of classes of consumers. The report defines the efficient use of electricity as follows:

Efficient use of electricity services is achieved when the value associated with electricity use is maximised, given the cost of its provision. For an individual consumer this occurs when the value from using electricity exceeds the cost of producing and delivering it to the customer (p.6).

We see little value in this definition, which takes an overly mechanistic approach and one that bears no relation to actual experience. Maximising the value gained from using electricity given its cost is very different from the value of using electricity exceeding its cost.

The definition also implies efficient energy use is only determined by the relationship between the price of energy and the value gained from using it. This simplistic view of efficiency leads to the subsequent assertion that:

For electricity use to be efficient, customers should face the marginal network and generation costs of providing electricity services to them. This allows customers to make judgements about whether and how much electricity to consume given the value obtained relative to its cost. This means that marginal cost pricing of network services and wholesale energy can be expected to give rise to optimal demand side participation (p.6).

The assertion is made with no evidence for support. It appears to be based purely on assumptions about customer decision making in response to price.

In California's *Statewide Pricing Pilot: Commercial & Industrial Analysis Update*, March 2006, the authors found that customers with load under 20kW of maximum demand were not price responsive at all to time of use (TOU) or critical peak pricing (CPP) and that only with automated technology assistance did they reduce demand. That is, price did not change energy use, automated technology controls changed energy use. For customers with maximum demand between 20kW and 200kW, customers were twice as responsive with automated technology as they were without. Such analysis reveals that price is relatively ineffective in eliciting a demand response and that the efficient use of energy typically relies on variables more complex than its cost.

Consumer responses from focus groups on TOU and CPP pricing, cited by NERA in its phase 2 smart meter analysis are telling:

A consistent finding across all of the focus groups was that participants were much more willing to consider a DLC [direct load control] tariff option when compared to other alternatives (p.23).

Participants viewed DLC options as providing them with a way to ‘do the right thing’ and reduce electricity consumption without needing to think about it and in that respect it not impacting their lifestyle. The fact that they would also reduce their electricity costs and receive a payment for adopting DLC was viewed as a bonus, although some respondents thought the level of payment (\$75 per annum) was high (‘electricity companies must be making lots of money’) (p.24).

In contrast to their willingness to consider DLC, the vast majority of participants did not see much benefit to them in adopting CPP. Views included that the need to change behaviour to avoid CPP prices would impact on people’s way of life and that only the ‘naive’ or ‘greeny’ would do so (p.24).

The responses from the focus group highlight that consumers, if exposed to wholesale prices, or some degree of wholesale prices, are not necessarily likely to adapt their use of energy accordingly. Furthermore, they are unlikely to choose such tariff options in the first instance and would prefer technology-enabled solutions with which they do not have to engage. The focus groups provide insight into how consumers behave and give meaning to relatively vague notions of how consumers value energy, highlighting that exposure to wholesale prices is relatively irrelevant in: achieving reductions in energy consumption at peak demand times; achieving efficiency of energy supply; and achieving efficiency of energy use.

The focus group findings should confirm the relatively intuitive notion that consumers of energy do not want to engage in real time energy markets. Like any market, the energy market exists to serve the needs of consumers, not for consumers to serve the needs of energy markets.

The report does acknowledge that not all customers should directly pay for electricity based on the half hourly wholesale price and that they should be able to choose to opt in to such tariff products. However this oversimplifies the complexity of customer choice, retailer marketing and retail competition. It is well documented that consumers do not always choose tariff options in their best interest¹. Exacerbating this issue is that TOU and CPP type products are typically low value for retailers, because they are unable to add value through wholesale price volatility management. This means such tariffs are unlikely to be offered to high value customers who are typically high income, well educated, big users. Instead, TOU and CPP tariffs would be marketed to low value users – customers who may be low volume and low income – precisely those customers who are unlikely to benefit from such tariffs and unlikely to offer significant demand response.

Coupled with the relative impotence of prices in delivering demand response, we fail to see the logic of pursuing the option of exposing customers to wholesale price volatility and cost reflective network tariffs. Furthermore, given the scope of the Report, we fail to see why the issue of pricing is given so much attention in the framing of the paper.

¹ ‘Do Consumers Switch to the Best Supplier?’ Waddams, 2007

The following statement captures the core issue with the Reports framing:

Whilst ideally customers should face wholesale prices directly, the transaction costs of doing so may well outweigh the benefits. Time-of-use tariffs and critical peak pricing are likely to provide a next best pricing signal to improve the incentives for demand side participation (p 13).

That the report suggests customers **should ideally** (our emphasis) face wholesale prices directly reflects an ideological position that is based on erroneous theory and lack of evidence. No evidence has been presented to suggest that exposing customers to wholesale price fluctuations brings about efficient use of energy and the infrastructure required to deliver it. At best, it is based on a simplistic notion of supply and demand where supply scarcity drives up prices eliciting a real time demand response and alleviation of the supply scarcity.

By framing the paper in this way, the Report gives the impression that demand side participation depends on customers being exposed to cost reflective prices. In reality, research shows that not only do consumers fail to respond to cost reflective prices, they are not needed to elicit a demand response. Direct load control and remote controlled thermostats can operate independently of smart meters and prices. Other forms of demand side participation such as Distributed generation do not depend on customers being faced with wholesale prices. Alternative mechanisms such as one-off contracted payments can facilitate direct load control options while feed-in tariffs can capture the benefits of distributed generation. Such alternative mechanisms have been completely discounted or ignored in the Report.

Recommendations

Draft recommendation: We recommend that the rules be amended to require network service providers to seek information from demand side proponents on an annual basis, on potential non-network solutions to emerging network constraints, outside of the application of the regulatory investment test.

CUAC welcomes initiatives designed to better integrate demand management with network planning, and supports the draft recommendation. However information provision is only an initial step in implementing effective demand management. More important will be how network business are either incentivised or disciplined to actively facilitate demand management.

Draft recommendation: We recommend that:

- *the Commission evaluate the materiality of the informational market failure that creates an impediment to demand side participation;*
- *require the NTP to develop a methodology for the inclusion of demand side participation within the expected load forecasts to be published on an annual basis in the NTNDP, by transmission exit point; and*
- *if the information market failure is considered material, develop a framework for the NTP to identify and evaluate non-network options, with the information being provided to network service providers for consideration in the regulatory investment test.*

CUAC welcomes this systematic approach to addressing identification of demand side participation opportunities as part of network planning. Again, we stress the importance of ensuring information gathering and provision is coupled with incentives to act on that information and removal of barriers to acting on that information – to be addressed in stages 2 and 3 of the DSP review.

Draft Recommendation: We recommend that the regulatory investment test:

- *ensure that the timeframe over which demand side participation options are required to be presented as alternatives to a network solution is sufficient to allow these options to be considered viable;*
- *clearly define how ‘wider national benefits’ should be interpreted for non-network options;*
- *use risk-adjusted costs and benefits to take into account differences in risk between alternative options; and*
- *define an option-value benefit associated with an investment that defers a proposed network investment.*

CUAC supports the review of consultation timelines on demand side options as they can be used to exclude such options. In defining ‘wider national benefits’ we believe that social and environmental issues need to be accounted for. In particular, the impact of greenhouse gas emissions on the suitability of network and non network supply options needs to be considered.

Draft recommendation: We recommend that the National Transmission Planner (NTP) be given the responsibility to develop measures of transmission transfer capability and, where feasible, publish transfer capability at each distribution network connection point.

CUAC supports this recommendation.

Draft Recommendation: We recommend that:

- *the Commission request NEMMCO to consider how technical requirements may be modified to better facilitate DSP as a means of providing NCAS as part of its current review of NCAS; and*
- *the roles and responsibilities for the provision of NSCS between NEMMCO and TNSPs be clarified to ensure that DSP is facilitated.*

CUAC supports this recommendation.

“Draft Recommendation: We recommend that:

- *NEMMCO continue to improve its approach to the inclusion of demand response within its methodology to determine the minimum reserve level;*
- *a methodology for forecasting available contracted demand response be developed, such that DSP is appropriately incorporated into the demand forecasts that form the basis of calculating the available reserve; and*
- *retailers be obliged to provide information on contracted demand response, on a confidential basis to NEMMCO.”*

CUAC supports this recommendation.

Please contact Tosh Szatow on 03 9639 7600 or by email to toshszatow@cuac.org.au should you have any questions about the above.

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